

STRUTS

Course Description

This three-day course will teach students how to use Java Struts as a framework to develop web applications that follow the Model/View/Controller design pattern. The topics cover the components of Struts that are available from the Jakarta project of the Apache Foundation. The course illustrates what the components provide and use of them.

Course Length: 3 Days

Course Tuition: \$750 (US)

Prerequisites

Java Programming, Java Servlets, JavaServer Pages or Java2 Enterprise Edition. Java Servlet and JSP programming experience, and a basic understanding of HTML and XML is required.

Course Outline

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| <ul style="list-style-type: none">• Struts OverviewObjectives of StrutsWhere Does Struts Come From?Underlying MVC Architectural ComponentsModel 1 Design PatternModel 2 / MVC Design PatternImplementing MVC with a FrameworkWhat is Struts?Basic Struts ComponentsStruts DocumentationA Struts-Based Application: Logon | <ul style="list-style-type: none">• Struts OverviewObjectives of StrutsWhere Does Struts Come From?Underlying MVC Architectural ComponentsModel 1 Design PatternModel 2 / MVC Design PatternImplementing MVC with a FrameworkWhat is Struts?Basic Struts ComponentsStruts DocumentationA Struts-Based Application: Logon |
| <ul style="list-style-type: none">• Struts in a Simple Web ApplicationStars Information ApplicationList Stars FlowDisplay Star FlowActionServlet: the Controllerstruts-config.xml | <ul style="list-style-type: none">• Struts in a Simple Web ApplicationStars Information ApplicationList Stars FlowDisplay Star FlowActionServlet: the Controllerstruts-config.xml |

ActionForm: Form State
The execute Method of Action
The execute Method of
StarsDisplayAction
Directing Flow of Processing with an
ActionForward
Building a View with Struts Tags
Using Struts Taglibs in a JSP
The struts-blank.war: A Good Place to
Start
Review: Flow through a Typical Struts-
Based Application
• The Controller
ActionServlet as a Controller
RequestProcessor
Developer Responsibilities
Mapping
Forwards
Lifecycle of an ActionForm
ActionForm Considerations
The validate Method
• Action and the Business Model
The Role of an Action
The execute Method of Action
Threading Considerations
execute() Method Considerations
Handling an Error
Some Best Practices for Action
More Best Practices for Action
• The View
Forwarding to a View
Overview of Struts Tags
Struts HTML Tags
Form Related Tags
Struts Bean Tags
Some Bean Tags
Struts Logic Tags
Logic Tag Commonalities
The Tag
Logic Tag Examples
Some Struts View Best Practices
• Additional View and Form Support
More HTML Tags
Dealing with URLs
Using Error Tags
Internationalization with Struts Tags

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Using Error Tags
Internationalization with Struts Tags

Accessing Bean Properties	Accessing Bean Properties
DynaActionForm: A Configurable Form	DynaActionForm: A Configurable Form
Indexed and Mapped Properties in a Form	Indexed and Mapped Properties in a Form
• Meeting Additional Application Requirements	• Meeting Additional Application Requirements
Java's MessageFormat Class	Java's MessageFormat Class
Using MessageResources	Using MessageResources
Techniques for Formatting Data	Techniques for Formatting Data
Preventing Duplicate Form Submits	Preventing Duplicate Form Submits
Using ForwardAction and IncludeAction	Using ForwardAction and IncludeAction
DispatchAction	DispatchAction
Configuring LookupDispatchAction	Configuring LookupDispatchAction
JSP Buttons for LookupDispatchAction	JSP Buttons for LookupDispatchAction
Extending LookupDispatchAction	Extending LookupDispatchAction
• Handling Errors	• Handling Errors
Error Handling Options with Struts	Error Handling Options with Struts
Documenting Errors with ActionError	Documenting Errors with ActionError
JSP Error Pages	JSP Error Pages
Declarative Java Exception Handling	Declarative Java Exception Handling
Logging in Struts	Logging in Struts
• Validation	• Validation
Validator Overview	Validator Overview
Validator Requirements	Validator Requirements
Configuring Validator Rules	Configuring Validator Rules
Struts Validators	Struts Validators
Configuring the Struts Validators	Configuring the Struts Validators
Configuring Form Validation: validation.xml	Configuring Form Validation: validation.xml
Validator Rules Usage	Validator Rules Usage
Validation with Regular Expressions: The mask Rule	Validation with Regular Expressions: The mask Rule
ValidatorForm verses ValidatorActionForm	ValidatorForm verses ValidatorActionForm
Multiple Page Input with the Validator	Multiple Page Input with the Validator
Implementing a Validator Method	Implementing a Validator Method
Other Validator Implications	Other Validator Implications
• Page Composition with Tiles	• Page Composition with Tiles
Tiles Overview	Tiles Overview
Building a Tiles Template	Building a Tiles Template
Basic Tiles Example	Basic Tiles Example
Tiles Definitions	Tiles Definitions
Additional Options with Definitions	Additional Options with Definitions
Placing Definitions in a Configuration File	Placing Definitions in a Configuration File

Using the Tag	Using the Tag
Defining Attributes with , , , and Tags	Defining Attributes with , , , and Tags
A Tiles Controller	A Tiles Controller
Enabling the Tiles Plug-In	Enabling the Tiles Plug-In
Using Tiles	Using Tiles
• Appendix - Nested and Struts-EL Tags	• Appendix - Nested and Struts-EL Tags
Why Nested Tags?	Why Nested Tags?
Using Nested Tags	Using Nested Tags
Parent and Root Tags	Parent and Root Tags
The Whats and Whys of Expression Language	The Whats and Whys of Expression Language
EL in Struts Tags	EL in Struts Tags
JSTL verses Struts-EL	JSTL verses Struts-EL
Expression Syntax	Expression Syntax
Operators in Expressions	Operators in Expressions
EL Functions	EL Functions